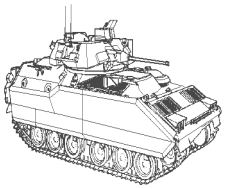
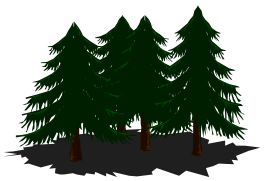
# ITAM





# The Bridge

**ISSUE 5** **Spring 1998**

## Bridging the Gap Between Army Training & Environmental Stewardship

***Under the Guidance of the ITAM Executive Management Council***

### CONTENTS OF SPRING 1998

# ITAM INSTALLATION STEERING COMMITTEE (IISC) ANNOUNCES NEW MEMBERS

By Ms. Gail Pollock, IISC Chairperson

In 1997, the Integrated Training Area Management (ITAM) Installation Steering Committee (IISC) was officially sanctioned as a Department of the Army committee. The primary purpose of the committee is to plan the annual workshop. The committee is composed of voting members from installations, Major Command (MACOM) Headquarters, National Guard Bureau, Corps of Engineers Laboratory and non-voting members from the Conservation Branch, Army Environmental Center and the Combat Training Support Directorate at Headquarters, U.S. Army Training and Doctrine Command. Voting members serve a four-year term with at least three members rotating off the committee each year.

In October 1997, a "Call for New Members" was placed on the ITAM website. The suspense date for nominations was 1 February 1998. Seven highly qualified individuals were nominated for consideration by the committee. The following persons were selected as IISC representatives and will begin their terms of office on 28 August 1998:

- Tom Scarbath — HQ 7th Army, USAREUR, Germany
- Valerie A. Morrill — US Army Yuma Proving Ground, AZ
- Wayne Johnson — National Training Center, Ft Irwin, CA
- Jay Brezinka — Camp Ripley National Guard, MN
- Sheryl (Holt) Rafferty — Ft Drum, NY

**M**embers currently serving on the committee are as follows:

- Gail Pollock, Ft Knox, KY **(Chairperson)**
- Terry Carroll, Ft Sill, OK **(Vice-Chair)**
- Jim Bailey — Aberdeen Proving Ground, MD
- ***Dusty Bruns** — Camp Bullis Training Site, TX
- *Stuart Cannon — Ft McPherson, GA (MACOM Representative)
- Tom Gray — CTSD, Ft Eustis, VA (MACOM Representative)
- Lawrence Jantz — CTSD, Ft Eustis, VA
- Don Jones — Ft Hood, TX
- Gary Larsen — Ft Richardson, AK
- *Jeff Linn — Ft Carson, CO
- ***Marjorie McHenry** — Idaho Army National Guard, Boise, ID

- Marvis Meyer — Ft Leonard Wood, MO
- Peter Nissen — Yakima Training Center, WA
- *Delarie Parmer — Ft Rucker, AL
- Steve Sekscienski — AEC, APG, MD
- Steve Warren — USA CERL, Champaign, IL

* Members leaving the committee in Aug 98.

A 1999 “Call for New Members“ will be placed on the ITAM website later this year.

## ODCSOPS UPDATE

**By Mr. Tom Macia, ODCSOPS**

***T***he HQDA focus during the second quarter of FY98 included five major items. First, the ITAM functional proponent, ODCSOPS (DAMO-TR), has been building the FY00 through 05 Program Operating Memorandum (POM), which drives program funding to sustain the 11 MACOMS and subordinate ITAM installations. For the first time, DAMO-TR used ATTACC to predict LRAM costs. However, it is still critical that installations prepare solid ITAM workplans, as these reflect the specific requirements to support funding requests.

***H***QDA along with the MACOM ITAM representatives and supporting agencies met during the week of 23 March for PMR 98-1 to discuss annual ITAM business. The PMR agenda included items related to the FY99 ITAM budget, the status of ITAM initiatives, and feedback from the field via the MACOMs.

***H***QDA will also participate in several of the MACOM ITAM Workshops, including USARPAC, FORSCOM/USARC, and ARNG. Besides providing updates on funding projections, HQDA will update attendees on the future direction of the ITAM Program and current ITAM initiatives. DAMO-TR recognizes that the MACOM workshops are not just a forum for briefing the attendees, but also an ideal opportunity for HQDA to get feedback directly from installations.

***H***QDA will continue to explore implementation of the Geographic Information System (GIS) Regional Support Centers (RSC). The objectives are to assess the potential for RSCs to achieve economies of scale and provide services to the installation at a lower total cost to the ITAM Program and to provide an ITAM capability to small installations that have not, as yet, been funded for full implementation.

***F***inally, DAMO-TR will continue to participate in international initiatives, primarily Traveling Contact Teams (TCT). Recall the TCT visit to Hungary in October 1997 reported in an earlier edition of "The Bridge." A few weeks later the Hungarians made a reciprocal visit to the U.S., including an ITAM stop at Fort A.P. Hill. Then in December 1997 a TCT made a coordination visit to Salisbury Plain Training Area, in the United Kingdom. Besides sharing U.S. land management concepts, the trip to the UK was an opportunity for the U.S. to learn about another country's military land management practices on an intensively used land parcel. In February 1998, a TCT visited Croatia and if things work out, a USAREUR land management/ITAM TCT will go to Poland in June of this year. The objectives of the Croatia and Poland trips include developing a closer alignment with emerging NATO member countries and allies. All of these efforts seek to share U.S. Army training land management and environmental stewardship know-how with other Armies.

## FORSCOM ITAM WORKSHOP
## Looking Back On a Successful Week
### By Mr. Ted Reid, FORSCOM ITAM Coordinator

**F**ORSCOM held its annual ITAM Workshop from 21 through 24 April in Killeen, Texas. The purpose of the workshop was to provide a forum for FORSCOM and USARC ITAM coordinators to be updated on ongoing initiatives at DA and MACOM levels, to learn what others installation ITAM programs are doing, and most importantly, to exchange ideas that may be useful to other installation's ITAM Programs.

***Day*** one was devoted to briefings by the FORSCOM and USARC ITAM Program managers, to include funding projections. Mr. Tom Macia, the DA Program manager, updated attendees on the future direction of the ITAM Program and current ITAM initiatives. CTSD provided updates on the integration of ATTACC with RFMSS, the RTLP-AS information system (AKA RFMSS), implementation of MAGIC, and other topics. AEC discussed the status of the LCTA repository, ITAM Homepage, the ITAM Short Course, Regional Support Centers, Remote Sensing Users Guide, and recompetition of the ITAM Support Contract.

***During*** the second and third days, installation ITAM coordinators gave presentations on various installation unique ITAM projects, which are enhancing training and natural resource management. For example, Wayne Johnson from NTC gave a demonstration on how Fort Irwin is using high-resolution digital orthophotography with ERDAS Imagery and GIS to both manage the installation's natural resources and support training at the NTC.

***On*** the last day of the workshop, Jerry Paruzinski took the attendees on a tour of Fort Hood. Remember those junipers that were invading the training areas at Fort Bullis? Well, Fort Hood has just as much. The Fort Hood LRAM team showed how their efforts to remove junipers and reshape the training land have improved training conditions on the installation and just as importantly how their efforts have improved the natural resource conditions. The tour also included a visit to a hardened brigade support area. Additionally, the ITAM team described some of their erosion control methods, specifically the erosion check dams, and showed evidence of how the LRAM results eliminated unsafe areas by correcting 30 to 40 foot drops caused by erosion.


## DA Pamphlet 350-XX How You Can Get Involved

**By Ms. Lisa Booher, USAEC**

**T**he DA PAM 350-XX, which is currently under initial development, will be the one-stop reference for personnel managing or executing ITAM. It, like the Army Regulation, establishes a consistent ITAM Program across the Army. Additionally, the PAM will describe the best field practices, standards, and ideas to ensure that future ITAM staff can perpetuate a viable and relevant Program that can be resourced by ODCSOPS.

**A**t present, USAEC and ODCSOPS are developing a first draft of the PAM. Obviously, the DA high-level perspective of the ITAM Program does not afford the same insight to convey all the important details or nuances understood by MACOMs and installation level staff.

To take advantage of the expertise in the field, ODCSOPS and AEC will complete the first draft of the PAM by following this approach:

1. Distribute a refined version of the DA PAM 350-XX outline at PMR 98-2. (AEC in March 1998)
2. Identify whom, within each MACOM, will contribute to the development process. (MACOMS in April 1998)
3. Develop workshop version of DA Pam. (ODCSOPS/AEC through 1 May 1998)
4. Conduct workshops to develop/refine content. (AEC 11 – 22 May 1998)
5. Gather additional information and/or refine content of DA PAM. (ODCSOPS/USAEC May – August 1998)
6. Distribute first draft of DA PAM at 1998 ITAM Workshop and PMR 98-2. (August 1998)

## How You Can Contribute

Provide your support at the May workshops so that we have a strong workshop version (item 3 below) of the DA PAM. We are especially interested in any procedures, fact sheets, training materials, or similar items that will be of use as we craft the content of each section.

Provide AEC with as much material as you can so that we can include your input into the working draft used during the workshop.

## Where to Send Information

Please submit electronic or hard copy materials that you think could be used to develop the ITAM DA PAM to the following address:

Commander
U.S. Army Environmental Center
ATTN: SFIM-AEC-EQN (Ms. Booher)
Aberdeen Proving Ground, MD
21010-5401
Email aabooher@aec2.apgea.army.mil

# RANGE XXI
# Reducing Range Erosion

By Mr. Mike Buckley, USAEC

After years of catching lead bullets, the earthen face of the cliff behind the targets on Fort McPherson's pistol range was breaking up. The Georgia installation needed a way to fix this natural backstop and protect the environment -- without affecting the quality of training.

So when the U.S. Army Environmental Center asked Fort McPherson to test some new materials and concepts developed under the Range XXI program, the post eagerly accepted.

"**W**e looked at it as a way to try something new," said Tom Barry, Chief of Plans and Operations in the post's Directorate of Plans, Training, Mobilization and Security. "The goal was to provide an improved training facility while fulfilling our responsibilities to take care of the environment."

**R**ange XXI is a program designed to enhance realism, reduce maintenance costs and improve environmental matters on military firing ranges.

**B**etween the cliff and the targets, engineers built a new berm, using mixes of different soils and polyacrylamide (PAM), an organic polymer used mostly on farms to line the irrigation ditches between crop rows. The absorbent, salt-like PAM crystals were added to help keep the berm together by improving its ability to retain water.

**U**sing lessons from a successful, similar project at Fort Rucker, Ala., engineers reduced the slope of the berm to slow water flow and planted thick grass on top for added stability. To stave off erosion from the face of the cliff, they built a 24-foot gabion wall -- like the kind used to stabilize river banks in between the cliff and the berm. They also installed pipes and a synthetic lining behind the berm to direct water runoff away from the impact areas.

**T**he range has been used almost daily since reopening in September. Lisa Miller, a project officer in USAEC's Pollution Prevention and Environmental Technology Division, said heavy firing has created "pockets" of bullets in some spots -- as expected -- but the project has reduced both erosion and maintenance requirements.

**U**SAEC and the U.S. Army Construction Engineering Research Laboratories have started sampling soil and sediment from a nearby creek and will know soon whether the changes have kept lead from spreading through the environment.

**B**ut the range has already passed an important test. Soldiers who have fired on it say it is as realistic as any other pistol range.

"**W**hen environmental protection is planned into operations from the beginning, then it's not going to be a distraction," said SSG Richard Jarvis, one of many people to fire on the range during its official reopening. "It's like wearing seat belts -- you do it so many times you just get used to it."

**A soldier fires on Fort McPherson's environmentally re-engineered pistol-training range. (Photo and article provided courtesy of Soldier's Magazine.)**

# West Point ITAM -- Helping Protect Our T&E Species

By Ms. Catherine Coleman, ITAM Program Manager, USMA

**T**he USMA Natural Resources Branch teamed up with the N.Y. State Department of Environmental Conservation (DEC) and the National Audubon Society in a coordinated effort to monitor the bald eagle wintering population around the U. S. Military Academy and in the Hudson Highlands region. The West Point Military Reservation consists of 16,000 acres that is adjacent to both the Harriman/Bear Mountain State parks and the Black Rock Forest Preserve. Together these areas add up to over 70,000 acres of relatively undeveloped land that makes the region attractive for the shy birds.

**T**he goal of the jointly sponsored project was to capture at least one bald eagle, equip the bird with tracking devices, and release it back into the wild. The contractor hired for the eagle capture project was birding expert James Paolino. Many grueling hours were spent over a four month period by Mr. Paolino and assistants watching from the camouflage of a blind on Constitution Island on the Hudson River, part of the West Point reservation. These efforts paid off tremendously; however, and the dedicated crew was successful in catching eagles on not one, but four occasions, this season. The three adult females were fitted with radio transmitters

for local tracking and satellite transmitters for tracking after they left the Hudson Highlands region. The single immature male caught was fitted only with a 3-year radio transmitter.

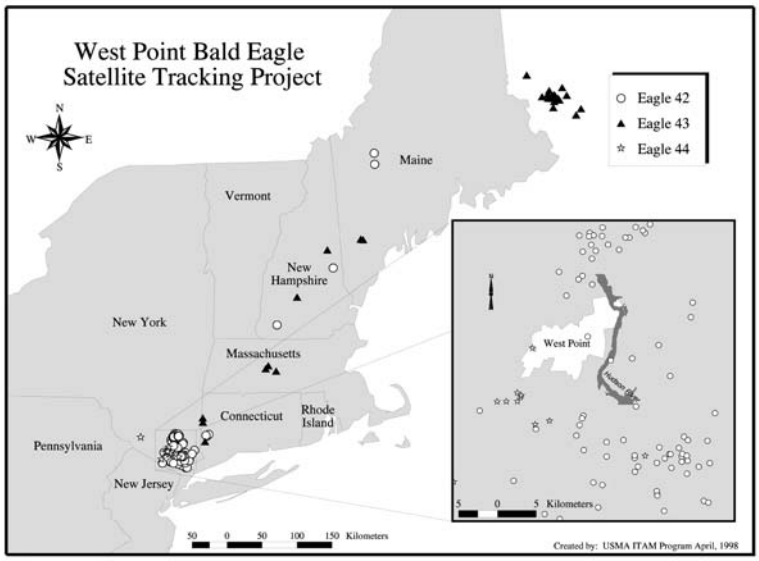
**M**onitoring of the birds began as soon as they were released at Constitution Island the morning after their capture. Local tracking continued on a daily basis via the local radio transmitter as long as the eagles were within the 10 mile receiver range. Meanwhile, the satellite transmitter pinpoints the location of the birds at set intervals. This allows tracking of the birds even when they leave the 10 mile local receiver range.


**USMA Wildlife Biologist, Jim Beemer, observes release of eagle #43.**
**(Photo by J. Deschenes)**

**T**he ITAM program has been able to assist in this effort in a number of ways. Aside from spending time humoring the eagle expert and assisting in "blind watching," ITAM has been there to document the release of all four eagles from Constitution Island. This documentation, in the form of video and still photos, has been made available to the Natural Resources office, and others working on this project.

**T**he ITAM program has also been able to support in tracking the bald eagles by displaying their coordinate location data on maps using the GIS. As the satellite positions are received from Mr. Peter Nye at the DEC, James Beemer, the USMA Wildlife Biologist, compiles them so Kelly Pew, the ITAM GIS Specialist at USMA, can import these coordinates into the GIS. These eagle locations can be updated and viewed within minutes and overlayed on various maps in

the GIS system. The migration route of two of the birds ("fondly" named #42 and #43, coinciding with their wing tag numbers) is shown to continue up into Maine and New Brunswick.




**Path of West Point eagles from December 26, 1997 to April 4, 1998.**

**T**he third adult female (#44) left the area on 8 April and is now in New Hampshire. It is well into early spring here at West Point and past the normal migration period for this region.

**T**he Natural Resources office will continue to receive location data on all three adult birds from both local tracking efforts and satellite positions. The importance of this project in protecting this great species is evident by the information collected in this study. The assistance and information supplied by the ITAM Program will be used by the West Point Natural Resources office in this ongoing study to learn more about the use of the Highlands and West Point as feeding, roosting and nesting grounds by these magnificent birds.

**West Point Eagle #43 fitted with GPS satellite transmitter.** **(Photo by J. Deschenes)**

**For more information** on West Point eagle migration, log on to web site at http://www.learner.org/jnorth/spring1998/critters/eagle/.

Then, look under the Northeast Eagle information for updates.

## Cooperative Agreement with SCA and the USAEC

**By Mrs. Sharon Schmitt, USAEC & Ms. Teri Shirnia**

**A** Cooperative Agreement was implemented between the U.S. Army Environmental Center (on behalf of all Army installations) and the Student Conservation Association on 1 May 1996. The SCA is a non-profit organization that has been recruiting volunteers to assist Army natural resource managers in all commands. SCA will recruit Resource Assistants (RA) who volunteer their services through SCA in exchange for training and experience. Most are college students or recent graduates. They typically work full-time, for 12 weeks and are available at all times of the year. The average cost to the installations is $2,200.

### THE PROCESS FOR HIRING SCA A RESOURCE ASSISTANT (RA)

**1.** Contact Mrs. Sharon Schmitt, SCA Coordinator at AEC for a request form.

2. Fax the completed form to Sharon Schmitt at AEC and Mr. Scott Weaver at SCA.
3. Mrs. Schmitt will send your request to the SCA, who will begin recruitment processes.
4. SCA will notify the requestor with names of qualified applicants.
5. Installations will work closely with SCA in the selection process and costs.
6. Notify Mrs. Schmitt of your selection.

Installations MUST send a MIPR for the total cost of the RA to:

U.S. Army Medical Research Acquisition Activity
ATTN: MCMR-AAA-V (Michael Younkins)
Fort Detrick, MD 21702

After receipt of your MIPR, Fort Detrick will issue a Task Order to SCA. NO VOLUNTEER CAN START WORK UNTIL SCA RECEIVES A TASK ORDER!

**FOR MORE INFORMATION**

- **The POC at AEC is**
  Mrs. Sharon Schmitt
  Telephone: 410) 671-1568
  DSN 84-1568
  FAX: (410) 671-1680 DSN 584-1680

- **The POC at USAMRAA is**
  Mr. Michael Younkins
  Telephone: (301) 619-2503
  FAX: (301) 619-2505

- **The POC at the SCA: is**
  Mr. Scott Weaver ,
  Telephone: (603) 543-1700
  FAX: (603) 543-1828

## Pre-NTC Homework

By Mr. Rick Montgomery, Army Environmental Awareness Resource Center

*If* you are planning to train at the National Training Center (NTC) Fort Irwin, Calif., expect to receive and study the environmental awareness package provided by the post's environmental staff.

*T*he package is part of the Army's ITAM Program and was developed with support from the Army Environmental Awareness Resource Center. It contains a 20-minute video that explains the NTC Commander's position on environmental issues, what soldiers can expect upon arrival

at the NTC, procedures for pickup and turn-in of hazardous materials, and proper spill response techniques.

***E**ach arriving soldier is also issued a waterproof pocket field card with instructions for handling fuel spills and encounters with endangered species. Emergency telephone numbers and radio frequencies are included. An installation map on the back shows major vehicle trails, off-limits areas and places most likely to contain threatened or endangered plants and wildlife.

***S**imilar packages tailored to local environmental conditions and procedures are in use at many Army installations. The NTC field card was originally developed to meet a request by the incoming 2nd Brigade, 24th Infantry Division, from Fort Stewart, Ga.

***T**he NTC environmental packet is expected to help save thousands of dollars in environmental cleanup costs per rotation, money that otherwise comes out of a unit's training budget. It also helps sustain the training area for future rotations, said Bill Vincena from the NTC's Department of Public Works environmental office.

**An environmental awareness package used at NTC helps soldiers avoid endangered species such as this desert tortoise. (Pre-NTC Homework article provided courtesy of Soldier's Magazine.)**

The National Training Center, Fort Irwin California recently acquired high resolution digital orthophotography to serve as the image base for its Geographic Information System (GIS) and Star Wars operations. The requisition is the result of a coordination effort led by the ITAM team.

In July of 1996 members from the Operations Group, 11th ACR, Aviation, Spectrum Management, Public Works, G3, G2, and other agency and support groups that would benefit from a new image database attended an open working group session to discuss imagery needs. The sessions highlighted the need for color digital orthophotos at 0.5 meter spatial resolution and high accuracy terrain models. In addition, the group concluded that 0.5 meter spatial resolution required capture by aerial photography.

Because the photogeometric processes required to produce orthophotos also required the creation of a terrain model, the working groups determined that the terrain model specs should be at level 1 DTED (digital terrain elevation data). Most DTEDs used are level 2 (30 meter spacing in the elevation matrix), but we chose a 5 meter spacing. This level of accuracy is necessary for supporting virtual reality applications, which will be important in the future. Costs to purchase the imagery were shared among the users, thereby reducing the overall impact to any one program.

The Fort Irwin digital orthophoto project has turned out to be one of the largest projects of this type ever undertaken. The photography comprises an area of approximately 2,200 square miles, and is divided into 560 tiles. Each tile takes up 197 MB in the ERDAS.img format, and 147 MB in the GEOTIF format. Both formats were required as part of the vendor's deliverables.

To deal with the enormous database size, we also required the vendor to provide copies of the data in a new compressed multi-resolution format known as the MrSID, i.e., (Multiple resolution seamless image database). With this format, compression ratios of up to 60:1 can be attained without loss of data. Accessing various portions of the image is very quick due to multiple resolutions. Using a ratio of 55:1 we can distribute the imagery of the NTC on one CD ROM. The MrSID format will be compatible with ESRI's ArcView, Arc/Info, and ERDAS Imagine.

Combine the imagery with the GIS capabilities of COTS products (such as Imagine, Arc/Info, and ArcView) and anything is possible! Because of the image accuracy (it meets the national map accuracy standards for mapping scales of 1:5000) the imagery will be used to verify the location of other spatial data such as roads, trails, and even utility poles. The terrain model brings new and exciting capabilities to the GIS. Visibility analysis, fly through, and the virtual GIS are used to increase the effectiveness of after action reviews (AARs), and to demonstrate how the ITAM program's are impacting the training environment.

So far, we have learned some things that should be useful to other ITAM Programs. Our lessons learned include:

- Know what you want and get all potential users involved from the beginning.
- Know the processes involved -- most people are not aware that high accuracy DEM's can be derived through photogrammetric methods.
- Maintain a dialog from day one with your photogrammetric vendor and/or all possible vendors if the contract has yet to be awarded. They are a valuable source of information.

**For More Information** Contact Mr. Roger J. Adams, GIS Coordinator or Mr. Wayne Johnson, ITAM Manager at 760-380-4533 or 3169.

## Native Plant Seed Collection Program

By Ms. Ruth Sparks, NTC Fort Irwin, CA

Economically and ecologically sound management principles increasingly dictate the use of native plant species, especially local ecotypes, in restoration projects. Besides maintaining natural diversity and contributing to overall ecosystem stability, native species may be the only viable option for revegetation of some areas. This is particularly true for deserts. Seeds collected locally have an increased chance of successful germination and growth because source plants are better adapted to the soil, temperature, and precipitation regime where the seeds are likely to be used. An initial investment in local seed collection and storage facilities allows more direct control over the quantity, quality, and purity of seed supplies. The potential for increased success of revegetation projects and the decreased dependence on variable outside seed sources will result in long-term savings. A high quality local seed bank provides the necessary materials for out planting nursery stock or direct seeding.

The NTC ITAM Program initiated a native seed collection program in the summer of 1996. Collections have been made by the Soil Ecology Restoration Group (SERG) of San Diego State University and by the ITAM field crew. Over the past two years, seeds of thirty-five species have been collected totaling approximately two hundred pounds. This includes three grass and five forb species, but the majority of the collection is composed of common Mojave Desert shrubs (e.g. creosote, Mormon tea, burrobush, desert senna, brittlebush, and saltbush).

Although this provides sufficient seed stock for nursery plants, as well as some direct seeding, larger quantities will be required for seeding projects over the next several years. To

address this need, custom collection has been contracted out through spring of 1999 to take advantage of the excellent seed year expected as a result of the unusually wet winter.

**K**eeping accurate data records is an important aspect of any seed collection program. This ensures a reliable tracking system for seed batches from collection, through testing and cleaning, to their use in revegetation projects. Each time a collection is made, an accompanying data sheet is completed which includes the date, species, site number, UTM location, collector, site description, seed maturity and bulk weight. These forms are filled out in duplicate with one copy attached to the seed bags and the other submitted for entry into a collection database. Cleaned weights and seed fill, i.e., viability, are also entered, when testing completes.

Spiny senna (*Senna armata*) is a desert wash species that bears yellow flowers in April and has pods which are collectable by June.

**I**n addition to maintaining accurate accounts of seeds in stock, the database provides a valuable planning tool. The NTC seed database has been converted to an ArcView format that can be queried by species, date, or location. For example, if we need to collect California buckwheat (*Eriogonum fasciculatum*), we can view the locations where it has been collected in the past along with grid coordinates, quantities and test results for each collection. Observations of plants in flower are entered in a separate data file as field personnel report them. Return visits can be made to these locations when seeds are ready for collection. By updating both the collection and observation databases, information is available to increase collection efficiency and reduce the cost of additional seed collections.

**T**he package also includes a field guide with copies of necessary forms and telephone numbers of essential environmental personnel. The self-contained packages must be returned when units arrive at NTC, then are recycled by being shipped out to the next rotation

**T**he NTC ITAM seed collection program will pursue several new directions over the next year. The first is to obtain and relate rainfall data to the chronology of seed production for each species. This will permit answers to such questions as "How much rain is required to trigger viable seed production in a particular species?" and "How long following the threshold amount of rain should collection begin?" Such analyses will enable better planning of seed collection activities.

**S**econdly, collection efforts will focus on native pioneer species. These plants provide quick cover on highly disturbed sites, protect against wind and water erosion, add organic matter, and generally make the sites more favorable to germination and growth of the longer-lived shrubs.

***Ambrosia dumosa*, commonly called burrobush or white bursage, is a ubiquitous Mojave Desert species occurring as a codominant with creosote (*Larrea tridentata*). This species has bur-like fruit which are dispersed by snagging the fur of passing animals.**

## Fort Carson Partnership Battles Erosion

By Mr. Bruce Miller, Fort Carson,
Directorate of Environmental Compliance and Management (DECAM)

**T**o wage war on erosion in training areas at Fort Carson and the Pinon Canyon Maneuver Site (PCMS), the Fort Carson DECAM has put together a team of experts. Included on the team are the U.S. Geological Survey (USGS), the U.S. Agricultural Research Service's (ARS) Tucson Sediment Laboratory and the Natural Resource Conservation Service (NRCS), along with several of DECAM's environmental disciplines.

**T**he USGS, ARS, and NRCS do not manage lands; rather, these agencies provide technical expertise on client lands. Since DECAM is the *client* served by these agencies, DECAM's Natural Resource Division Chief, Gary Belew passed team coordination on to Doug Cain, USGS District Chief. The team's primary mission is to gain an understanding of how military activities impact erosion processes, define best management practices and prescribe actions. DECAM program managers use team products to develop erosion management projects.

**Banksloping**

**F**ort Carson has embarked on a large-scale program to correct long-standing erosion on the post using banksloping and rehabilitation of erosion courses. At Fort Carson and the PCMS, land use has resulted in breakdown of the vegetation that normally traps, uptakes, and transpires rainfall and snowmelt. Loss of plant cover results in soil loss, sheeting, rilling, headcutting, and the formation of large erosion courses. The montmorillonitic clays found in the post's soils allow the sides of erosion courses to remain erect instead of collapsing to a normal angle of repose.

**B**anksloping the erosion courses will re-establish a normal angle of repose and level the landscape, allowing vegetation to be re-established – which brings the area into hydrological balance. Remediative banksloping is the only course of action that can correct the imbalance in a fashion that will provide full benefit to installation operations while solving soil and water degradation problems.

**E**rosion courses are found on all training areas at Fort Carson and the PCMS. Areas where erosion courses have had the most dramatic negative impact on military training are given priority for being banksloped.

**For More Information**

To learn more about Fort Carson's approach to erosion control, please contact Mr. Bruce Miller of Fort Carson's DECAM at DSN 691-2022 (COMM 719-526-1693). Alternatively, send e-mail to: millerb@carson-emh1.army.mil.

# Partnering for the Future

## Fort Riley Helps Kids Discover Archaeology

By James Theres, Dynamac Corporation, Fort Riley Directorate of Environment & Safety

**A** quarry site last used by Native Americans around 1300 AD… a hearth found 15 feet underground dating back to 4000 BC… a Kansas farmstead built around 1850. These are just a few examples of historic and archaeological sites two Kansas seventh-graders and their math teacher recently visited with Fort Riley's installation archaeologist, John Dendy.

**S**tudents, Traci and Martin, and teacher, West were participants in a nationwide program called Futures 2000, an initiative designed to help students focus on the relationship between school and their futures in the world of work. Through Futures 2000, young people are encouraged to explore career options with the hope that they will enter high school thinking about two or three specific career choices.

**T**o be considered for the Futures 2000 program, students must write a grant application – complete with a budget – and submit it to the program coordinator for consideration. A Futures 2000 screening committee then decides which grants to fund. Said Traci; "I began learning about archaeology in sixth-grade social studies. Ever since then I've wanted to become an archaeologist."

**A**fter approving the grant, Futures 2000 contacted John Dendy about having the students work with him at Fort Riley. Dendy readily agreed and coordinated with Fort Riley Command to take the students to a variety of different sites found on the installation in order to give them a good feel for archaeology.

**T**he first order of business was to show the future archaeologists the importance of map reading. The students spent the first 30 minutes of the day studying a map of the area, checking topography and identifying access routes.

**I**n addition to map reading, a successful archaeologist must conduct plenty of background research, including topics such as geology, climate, biology, botany and written or oral history. According to John Dendy, "An archaeologist must conduct an enormous amount of background research before ever thinking about actually beginning a dig."

**A**fter a crash course on the basics, the new archaeological team headed for its first destination of the day – a rock quarry last used by Native Americans to make arrowheads, knives and scrapers around 1300 AD. "Native Americans selected this site because it is loaded with flint. When someone strikes one of these rocks, it splinters and leaves very jagged edges which can easily be turned into a weapon or utility knife."

**N**ext on the tour was a farmstead that first appeared on tax records in 1865. Built in the wood line near a river, the farmstead was abandoned in 1940. Several historic artifacts remain at the site, including the foundations of the original house, storm cellars and barns. An excavation of the site is planned in the near future.

**T**he third stop of the day was a hearth (fireplace) dating back to 4000 BC. Located behind Fort Riley's Natural Resources building, the site was first identified when Fort Riley's Directorate of Public Works replaced a telephone pole.

**T**he final stop of the day was spent at a Native American burial ground learning about Native American culture and tradition. Under the Native American Graves Protection and Repatriation Act, Fort Riley is required to identify Federally recognized tribes with priority for custody of human remains and cultural objects located on post; five tribes have historical roots on Fort Riley.

***As*** part of the Futures 2000 program, the students must complete an after action report and present the report to their classmates along with the videotape of their adventures as Army archaeologists-in-training. The budding archaeologists were thrilled with their experience. "I really want to be an archaeologist now," Traci and Martin exclaimed at the end of their day on Fort Riley.

***To Learn More*** about archaeology on Fort Riley, contact Mr. John Dendy at DSN 856-8618 (COMM 913-239-8618).

## Seventh Annual ITAM Workshop, Yakima, Washington

By Ms. Gail Pollock, IISC Chairperson

**T**he Integrated Training Area Management (ITAM) Installation Steering Committee (IISC) met in Yakima, WA, 3-5 Mar 98 to plan, organize and coordinate the Seventh Annual Workshop. The workshop will be conducted 25-27 August 1998 at the Cavanaughs Gateway Hotel in Yakima, WA. Registration packets will be mailed in early May and a formal announcement will be placed on the ITAM website.

**B**ased on the comments made last year in San Antonio, we have designated separate rooms for vendors/break area, posters and government agency displays, as well as four breakout sessions. To reduce the noise factor during breaks, we have moved the location of the break area away from the oral presentations.

### For More Information

***If*** you have questions concerning the conference, please call Gail Pollock, (502) 624-6684 or send an email to: pollockl@ftknox-emh3.army.mil.

## ITAM 1998 Workshop Presentations

***S***ixty-five (65) abstracts were received for the oral presentations and sixteen (16) abstracts were received for the poster presentations. All the abstracts were excellent. Unfortunately, only fifty-four (54) time slots were available for oral presentations. The oral and poster presentations scheduled for the workshop appear on pages 15 through 17.

- Using High Resolution Imagery for World Class Training at the National Training Center (Roger Adams)
- Sediment Monitoring & Modeling Project Smith Branch of Roubidous Creek, Ft Leonard Wood, MO (Paul Albertson)
- ITAM CD-ROM for Officer Development - Progress Report (LTC Ronald F. Barry)
- Applied Erosion Control at CMTC Hohenfels - Lessons Learned After 9 Years of Field Experience (Albert Boehm)
- GIS Capabilities & How Trainers Can Profit (Michael Voegele)
- LCTA at CMTC Hohenfels (1986-1997) - Field Experiences and Possible Improvements to the LCTA Data (Bernhard Weber)
- Plant Surveys on Four National Guard Installations: Significant Findings and Implication for Military Training (Robert Brozka)
- Vegetation Manipulation to Enhance Training Area Capacity (Jeff Bullen)
- Tracked Vehicle Impacts on Sage Grouse Habitat Following a Major Training Exercise: Yakima Training Center (Larry Caldwell)
- Best Management Practices to Prevent Lead Migration on Small Arms Ranges at the USMA (Joan D.B. VanDervort)
- Integrating the ITAM Program (Christopher A. Collins)
- Developing an LCTA Program at Ft Dix: Incorporating Past Lessons Learned into Plot Allocation (Danielle Conboy)
- Seven Years of LCTA at Fort Benning, GA (Theresa E. Davo)
- Soil Erosion on a Maneuver-shed: Applying USLE/RUSLE at the Pinon Canyon Maneuver Site, CO ( Dr. William Doe)
- A Comparison of LIDAR Derived Terrain Data with Conventional Techniques (Harlan P. Foote)
- Noxious Weed Detection Using Hyperspectral Imagery (Harlan P. Foote)
- Using Grazing as an LRAM Tool (JoAnn Froland)
- The Site Rehabilitation & Prioritization (SiteReP) System, A Digital Tool (Rick Gatewood)
- Soil Frost Susceptibility and Training Land Soils (Lawrence Gatto)
- Training and Natural Resource Decision Making on a Military Use Area (Merland G. Halisky)
- Using GIS to Optimize Site Selection of New Training Areas on Ft Bliss, TX (Andrew Hands)
- Landscape Ecology in LCTA at the National Training Center (Peter Hickman)
- Planning for the Future. A Look at Yakima Training Center's 5-Year Integrated Training Area Management Plan (Terry Holsclaw)
- Training Area Recovery After a Natural Disaster (Sheryl (Holt) Rafferty)

- Description and Preliminary Results of the 1997/1998 Aquatic Biomonitoring Program at Camp Shelby Training Site, MS (Fred G. Howell)
- TVIM - Scaling Training Related Impacts from the Ground to Remote Sensing (Daniel E. Irwin)
- Yakman - Customized GIS for Environmental Management (Daniel E. Irwin)
- Experimental approaches for Measuring Tactical Vehicle Impacts on Military Training Lands (David Jones)
- Implementing Ecosystem Management at Yakima Training Center (Steven M. Kruger)
- Effectiveness, Durability, and Costs Associated with Several Dust Palliatives Applied to Unsurfaced Roads at Ft Drum, NY (Tom Lent)
- Back on Track at Ft Carson, CO (Jeff Linn)
- Putting the Data to Use (Angela Lombardi)
- Tactical Concealment Area Planning Guidance Document (Kim Michaels)
- Utilizing Remote Sensing and GIS Technologies for Improving Use of Aerial\ Photography and Declassified Satellite Imagery in Vegetation Mapping (James Mikkelsen)
- An Effort to Integrate Training Land Requirements and Resource Conditions at Ft Campbell, KY (ROWPU What Did We Do!) (Robert Niemann & Malinda Powell)
- Beach Erosion Control at Ft Story, VA (Johnny Noles)
- Breeding Resilient Plants to Rehabilitate Cold-Region Military Training Lands (A.J. Palazzo)
- Construction of a Concealed Brigade Support (Logistic) Area (BSA) (Jerry Paruzinski)
- Implications and Opportunities for Improved Environmental Management with New Satellite Systems (Gregg M. Petrie)
- The Seibert Stake Program at the Yakima Training Center (Margaret Pounds)
- Dust & Erosion Control Projects on Confidence and PEC's Courses - The Safety Side Effects" (Joe Proffitt)
- Shrub Restoration Project Success and Precipitation Variability (Dana L. Quinney)
- Hands-On EA: The Fifteen-Minute Poster (Scott Quinney)
- LCTA Supports Military Training by Documenting Shrub Stand Stability (Dana L. Quinney)
- Determination of a Realistic Erosion Model for Grafenwoehr Training Area Selection Criteria, Scientific Background and Quality Level (Manfred Rieck)
- Comparison of Land Condition Trend Analysis Methods: The "Standard" Methods Versus the New Alaska Region LCTA (Terry Schick)
- Developing Conservation Objectives to Facilitate Training on Ft Hood, TX (Fredrich Schrank)
- Revegetation Techniques at the National Training Center (Ruth Sparks)

- Assessing Military Use of Training Areas on Ft Hunter Liggett, CA, Using a Geographical Information System (Ken Spencer)
- ITAM at Work: The use of GIS Technologies for Planning and Support at Ft Hood, TX (Jason Walters)
- A Hydrologic Modeling System for Training Applications (Mark S. Wigmosta)
- How to Apply the Army Training and Testing Area Carrying Capacity (ATTACC) Methodology and the Range Facility Management Support System (RFMSS) to Installation Land Management (Leslie Winters)

## ITAM 1998 Workshop Poster Presentations

- Cumulative Impacts and Changes to Various Resources as a Result of an Aggressive Erosion Control Project (Linda Adams)
- Integration of Site Rehabilitation Prioritization with LRAM (Lisa Andrews)
- Refining Aberdeen Proving Ground's Archeological Predictive Model – Predicting the locations of historical building sites from maps and vegetation at Aberdeen Proving Ground (James Battin & Deidre DeRoia, David Blick)
- Initial Application of the EDYS Ecosystem Model to a Little Bluestem Ecotone at Ft Hood, TX (W. Michael Childress)
- Estimating Wind Erosion on Military Lands (Christopher C. Cochran)
- Before and After Pictures of LRAM Project Sites (Roger Smith & Danielle Conboy)
- Monitoring Soil Freeze-Thaw Dynamics in Tank-Compacted and Uncompacted Soil at Yakima Training Center, WA (Jonathan J. Halvorson)
- WEPP for Predicting Erosion on Military Lands (Dr. John M. Laflen)
- Wear Tolerance Evaluation/Demonstration of Vegetation in High Traffic Areas (Jeff Lamb)
- Alaska Region LCTA Data Flow: Providing USARAK Trainers with Useful Information (Deb Lipyanic)
- Scoping for Solutions in Applying Land Rehabilitation and Maintenance (Lisa Randolph)
- Wildlife Habitat Change Simulation for Troop Training and Conservation at Army Bases (Ronald N. Kickert & Mary Ann Simmons)
- Access LCTA: A Microsoft Access Based LCTA Users Interface (William Sprouse)
- Remote Environmental Monitoring at the U.S. Army's Yakima Training Center, WA (Karen Steinmaus)

- SMART TERRAIN - PC-Based Battlefield Visualization Capability (John S. Risch & Karen Steinmaus)
- FY96 LRAM Projects to Enhance Ft Stewart's (GA) Training Land (James T. Pearson)

# MAY TO AUGUST 1998 CALENDAR OF EVENTS

| DATE | EVENT | LOCATION | FOR MORE INFORMATION |
|---|---|---|---|
| **MAY** | | | |
| **3 - 6** | National Conference on Environmental Decision Making | Knoxville, TN | E-Mail bet@orni.gov |
| **4 - 8** | USGS-DOD Environmental Conservation Program Meeting | Sheraton Grand Hotel, Tampa, FL | Tel: (703) 648-5001 or 5004 |
| **4 - 6** | Modeling & Simulation Seminar and Workshop | Radisson Plaza Hotel, Alexandria, VA | E-Mail carysv@acq.osd.mil |
| **5-8** | UXO Forum 1998 | Anaheim, California | Tel: (800) 505-8827 |
| **16** | Armed Forces Day | | |
| **11-22** | DA Pamphlet 350-XX Workshop (2 1-wk sessions) | USAEC, Edgewood, MD | E-Mail aabooher@aec.apgea.army.mil |
| **JUNE** | | | |
| **15 JUN** | Deadline for submitting materials for Summer 98 | | E-Mail aabooher@aec.apgea.army.mil |

| DATE | EVENT | LOCATION | FOR MORE INFORMATION |
|---|---|---|---|
| | issue of ITAM Bridge | | aabooher@aec.apgea.army.mil |
| **JULY** | | | |
| **20-24** | Army Live Training Symposium | Hampton, VA | |
| **AUG** | | | |
| **25-27** | ITAM Workshop | Cavanaughs Gateway Hotel Yakima, WA | Email to: pollockl@ftknox-emh3.army.mil |
| **27** | PMR 98-2 (ITAM Annual Program Plan for FY 99 to MACOMs) | Yakima, WA | |

To include ITAM related events on either the ITAM website or in the next issues *of* ***The Bridge*****,** email information to **aabooher@aec.apgea.army.mil**

# ONE MISSION, ONE ENVIRONMENT, ONE FUTURE: PRESERVE THE BALANCE

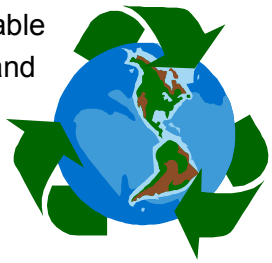
Articles compiled by the editor of the ITAM Bridge

The 1998 Army Earth Day theme, "One Mission, One Environment, One Future: Preserve the Balance," mirrors the 1998 Army theme, "America's Army: One Team, One Fight, One Future." "The Army has a great environmental story to share among installations and with local communities. Earth Day is a great way to share these ideas," said Maj. Gen. David A. Whaley, Assistant Chief of Staff for Installation Management. The 1998 Earth Day theme reflects the Army's commitment to integrating environmental practices into all mission operations.

## EARTH DAY

"For 28 years, Earth Day has been a time for Americans to focus attention on the importance of protecting our environment. Within FORSCOM, care and concern for the environment have become a way of life."

"We are stewards of some of the most significant natural and cultural resources in the United States. Protecting these resources keeps valuable training lands available for the soldiers of today and tomorrow. The realistic training afforded by these lands helps ensure mission readiness and national security. Sound environmental stewardship is a force multiplier."



"In recognition of the key role environmental stewardship plays in preserving the security of our Nation, I encourage all FORSCOM personnel and their families to make 22 April 1998 - Earth Day - a time to learn about the environment and a time to work together to showcase our environmental successes."

*General David A. Bramlett,*
*Commanding General,*
*U.S. Army Forces Command*

## Have You Heard About the Small Grants Program?

### Streamside Forests: Lifelines to Clean Water

Reprinted from the Earthday 98 Page of DENIX

The Small Grants Program is designed to help children and others learn about protecting water resources by working with installation staff to help restore a streamside ecosystem in their own community. The program provides an opportunity for military personnel to highlight the Defense Department's role in improving water quality, and to illustrate how national security and environmental protection go hand-in-hand.

### How to Apply

Send applications and questions via e-mail to www.denix.osd.mil (look for EDAY icon)

## Summer 1998 Edition of The Bridge

Please send your MACOM approved articles and photos to Ms. Lisa Booher of the USAEC by 15 June 1998.

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FAX is 410-671-1680